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can never be a fixed quantity. It needs but a glance at our manuals to show that generic and specific limitations are variously understood by writers, and who shall be entitled to say which is the truly "correct" combination? Indeed the authority for the last combination is regarded as of so little importance by American ornithologists that they omit it in writing the names of North American birds. Personally, I prefer the double citation, for then the history of the species becomes complete. The namer of the species and the authority for its present combination both receive the recognition justly due them.—F. H. KNOWLTON.

Botanical nomenclature.

Perhaps enough has been said on the subject of botanical nomenclature, yet I would like to offer some comments on certain phases of it that have been made prominent by some of the advocates of the Rochester and Madison rules.

It seems to be taken for granted by them that the signers of the Harvard circular were, and are, influenced by considerations of sentiment and prejudice in opposing the so-called reform in botanical nomenclature, whereas the contrary is the truth.

To assert that such men as Dr. Farlow, Prof. Eaton, Dr. Goodale and Dr. Robinson, and I might very properly add Dr. Gray and Sereno Watson who when living were in sympathy with the spirit which subsequently found expression in the Harvard Circular, would permit themselves to be influenced by mere prejudice and sentiment in such a matter is quite as discreditable to those eminent botanists as it is to those who make the assertion. Rather it is that the signers of that Circular believe with the late Prof. Eaton, who wrote me to this effect only a short time before his fatal illness, that the proposed methods of reform, so-called, would tend to increase rather than to diminish confusion.

By far the ablest paper, the fairest and most courteous that has yet appeared in defense of the new rules is that published by Lester F. Ward in the *Bulletin* of the Torrey Botanical Club in July, 1895, yet Mr. Ward certainly errs in assuming that the signers of the Harvard Circular are influenced by mere sentiment and prejudice, or a "personal disinclination to incur the annoyance of accustoming themselves to a new set of names." Among those signers of whom I have knowl-

edge and acquaintance the contrary is true. But one may well pause to consider the deplorable results likely to accrue from the ambitious revisions of the time-honored work of our greatest botanists through the opportunities opened up by the new system before approving of a method which tends to increase confusion by the multiplication of needless synonyms.

If Mr. Ward's suggestion of doing away altogether with authoritative names could be carried out it might perhaps do away with much of this objection by removing at least one motive for it, but it is doubtful if the suggestion is practicable, or desirable if practicable. An author's name has a certain historic significance and value. It not only furnishes a means for reference, but it is an indication of the direction in which one is to look for a knowledge of the plant's history. To advocate its removal on the grounds of "style" as Mr. Ward does, is to appeal directly to the purest sentiment; for what is style but sentiment, and what has science to do with sentiment? Here, it seems to me Mr. Ward is somewhat inconsistent. He accuses the signers of the Harvard Circular with being influenced by sentiment and prejudice, which we deny, and then suggests a change which has for its very foundation the purest sentiment possible whose legitimate field is the realm of literature only.

Again Mr. Ward errs when he says that "principle is cast aside for sentiment, and because Swartz' name of *Aspidium* happens to be in common use among fern gatherers (why not botanists?) we are enjoined from taking up the perfectly valid designation *Dryopteris* given years previously by Adanson." On the contrary the argument here is all against him, and, on their own grounds, of those who attempt to substitute *Dryopteris* for *Aspidium*. There is no sentiment at all about it. It is a practical application of the principles of priority as I understand them, as they were held by Prof. Eaton, and all botanists who adhere to Swartz' genera.

When Swartz elaborated the genus *Aspidium* he originated an entirely new order of things back of which there is absolutely nothing entitled to consideration. "Swartz was the first to reduce fern genera to anything like systematic order," wrote Prof. Eaton to me not long ago, and his work has received the endorsement of nearly a century; of what value as against it, is the obscure, insufficient and unscientific reference merely of Adanson, who himself borrowed the name *Dryopteris* from *Dioscorides* of the first century?

I have alluded to Mr. Ward's paper because it represents the best of what I am criticising. It is in fact the strongest and best defense of the Rochester and Madison rules that I have seen, and I doubt if an abler can be made; but I feel obliged to dissent from its conclusions though gladly bearing witness to the admirable spirit of courtesy with which it is so thoroughly imbued.

The argument however which he draws from analysis between searching for the parentage of a lost child and a lost plant, though ingenious and taking, is like a two edged sword that cuts both ways, or a boomerang that rebounds upon its thrower, and any such analysis is false and misleading with little or no application to botanical science. If this is not so, one might offer a similar analysis with an entirely different result. For example: the new nomenclature insists upon the specific name being in itself the name of the plant although such is not the fact. John Smith has two sons, William and John, either one of whom under certain conditions, and at certain times may properly be called Mr. Smith, or, in the privacy of their own homes, William, or John; but when it comes to public recognition it becomes necessary to designate either, or both, as the case may be as William Smith, John Smith, Jr., the abbreviation being affixed to distinguish the younger from the elder John, or it may even be necessary to add the residence, even to the detail of street and number in order to distinguish the sons of John from the sons of Samuel before the absolute identity of either of the Smiths can be conclusively established; so that a knowledge of the full name is necessary to fix the personality of each individual for a certainty.

Now among the ferns there are many distinct species bearing precisely the same specific name, so that if the specific name alone is the true name it would obviously be impossible to distinguish the different individuals by their names alone. The mere statement of this is sufficient to show the necessity for some other distinguishing appellation and the superiority of the generic name. The fern is an *Acrostichum*, an *Asplenium*, a *Myriophyllum* or a *Botrychium* with or without its specific name, but not a *lanceolatum*, a *Wrightii* or a *Lindeni* isolated from the generic. The two names are inseparable. Otherwise there could be no good reason for fixing upon the beginning of the Linnaean binomial system for plant nomen-

clature, and we might as well go back to the very beginning of plant names if we want to be absolutely just and "render unto Cæsar the things that are Cæsar's." On this point no less an authority than Bentham declared that "the specific adjective of itself is not the name of a plant," and that "for a species the combination of the substantive and adjective is absolutely necessary." It follows from this that a plant is not correctly named, until it receives its proper generic and specific name in combination.

But perhaps the strongest objection to the insistence on the use of the specific name under any and all circumstances is the absurdity to which it leads in the use of homonyms. In a reply which I wrote to Mr. Stearns' paper on Nomenclature in the *Bulletin* of the Torrey Botanical Club, but which was withheld from publication, I pointed out that the legitimate outcome from the proposed reform, if carried out, must lead to the adoption of what DeCandolle, Bentham, Dr. Hooker, Dr. Gray and such eminent botanists had always regarded as too absurd for consideration, as it was not thought probable that any botanist would adopt anything of the kind. Yet it has come about exactly as I said and we are treated to such absurd combinations as *Phegopteris Phegopteris*, *Scolopendrium Scolopendrium*, and such startling propositions as *Polypodium polypodioides*—a Polypodium that looks like a polypodium! What a wonderful revelation of scientific knowledge and information that is, to be sure, and how helpful it must be to the average collector in the field!

I have elsewhere stated my willingness to sacrifice my own personal views and accept without reservation any code approved by representative botanists of all countries in an international congress. National pride, the heritage from generations of American born ancestors, would naturally incline me to prefer methods originating in American atmosphere, but science is cosmopolitan and knows no boundaries. She seeks only for the truth, and the best, come from where it may, and therefore it has seemed to me that the so-called Vienna rules proposed by the German botanists at Berlin offer a much better basis for permanent agreement than our own and I would be glad to see them, or similar ones prevail.—GEORGE E. DAVENPORT.

Some remarks on nomenclature.

I cannot see how the nomenclature question can otherwise be settled than by a Paris congress in the year 1900 with four